Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A method of treating HIV-1 infection in a patient, comprising administering to a patient in need thereof a compound that inhibits p25 (CA-SP1) processing to p24 (CA),

wherein the HIV-1 does not contain a mutation encoding a substitution of Ala to Val at a position corresponding to residue 364 or 366 of HIV-1 Gag (residue 1 of SP1) as compared to the sequence of either the wild type strain NL4-3 or the wild type strain RF ~~or deletion of one amino acid in SP1 or in the region of the CA-SP1 cleavage site that decreases inhibition of said processing by 3-O-(3',3'-dimethylsuccinyl)-betulinic acid (DSB)~~, and

wherein said compound is a ~~derivative of betulin or betulinic acid,~~ member of the betulin or betulinic acid group of compounds, or a pharmaceutically acceptable salt of said ~~derivative~~ member.

2. (Previously presented) The method of claim 1 wherein said HIV-1 infection is characterized by HIV-1 infected cells which are capable of releasing HIV-1 virions and wherein said compound does not significantly reduce the quantity of virions released from treated infected cells or has no significant effect on the amount of RNA incorporation into the released virions.

3. (Previously presented) The method of claim 1, wherein said HIV-1 infection is characterized by HIV-1 infected cells which are capable of releasing HIV-1

virions and wherein said compound inhibits maturation of virions released from the infected cells.

4. (Previously presented) The method of claim 1, wherein said HIV-1 infection is characterized by HIV-1 infected cells which are capable of releasing HIV-1 virions, wherein each virion comprises a viral membrane, and wherein said compound causes a preponderance of virions released from the infected cells to exhibit spherical, electron-dense cores that are acentric with respect to the viral particle, to possess crescent-shaped electron-dense layers lying just inside the viral membrane, and to have reduced or no infectivity.

5. (Previously presented) The method of claim 1, wherein said compound inhibits the interaction of HIV protease with the CA-SP1 cleavage site.

6. (Previously presented) The method of claim 1, wherein said compound interacts with the viral Gag protein.

7. (Previously presented) The method of claim 6, wherein said compound binds near to or at the site of cleavage of the viral Gag p25 protein (CA-SP1) to p24 (CA).

8. (Cancelled)

9. (Previously presented) The method of claim 1, wherein said patient is administered said compound in combination with at least one anti-viral agent.

10. (Previously presented) The method of claim 9, wherein said at least one anti-viral agent is selected from the group consisting of zidovudine, lamivudine, didanosine, zalcitabine, stavudine, abacavir, nevirapine, delavirdine, efavirenz, saquinavir, ritonavir, indinavir, nelfinavir, amprenavir, adefovir, atazanavir, fosamprenavir, hydroxyurea, AL-721, ampligen, butylated hydroxytoluene; polymannoacetate, castanospermine; contracan; creme pharmatex, CS-87, penciclovir, famciclovir, acyclovir, cytofovir, ganciclovir, dextran sulfate, D-penicillamine trisodium phosphonoformate, fusidic acid, HPA-23, eflornithine, nonoxynol, pentamidine isethionate, peptide T, phenytoin, isoniazid, ribavirin, rifabutin, ansamycin, trimetrexate, SK-818, suramin, UA001, enfuvirtide, gp41-derived peptides, antibodies to CD4, soluble CD4, CD4-containing molecules, CD4-IgG2, and combinations thereof.

11. (Cancelled)

12. (Currently amended) A method of treating HIV-1 infection in a patient, comprising administering to a patient in need thereof a compound that inhibits p25 (CA-SP1) processing to p24 (CA),

wherein the HIV-1 does not contain a mutation encoding a substitution of Ala to Val at a position corresponding to residue 364 or 366 of HIV-1 Gag (residue 1 of SP1) as compared to the sequence of either the wild type strain NL4-3 or the wild type strain RF ~~or deletion of one amino acid in SP1 or in the region of the CA-SP1 cleavage site that decreases inhibition of said processing by 3-O-(3',3'-dimethylsuccinyl) betulinic acid (DSB)~~,

wherein said compound is selected from the group consisting of (a) a member of the dimethylsuccinyl betulinic acid group, (b) a member of the dimethylsuccinyl betulin group, and (c) ~~a derivative of dimethylsuccinyl betulinic acid or dimethylsuccinyl betulin, and (d)~~ a pharmaceutically acceptable salt of ~~any of (a)-(c)~~ (a) or (b).

13. (Currently amended) A method of treating HIV-1 infection in a patient, comprising administering to a patient in need thereof a compound that inhibits p25 (CA-SP1) processing to p24 (CA),

wherein the HIV-1 does not contain a mutation encoding a substitution of Ala to Val at a position corresponding to residue 364 or 366 of HIV-1 Gag (residue 1 of SP1) as compared to the sequence of either the wild type strain NL4-3 or the wild type strain RF ~~or deletion of one amino acid in SP1 or in the region of the CA-SP1 cleavage site that decreases inhibition of said processing by 3-O-(3',3'-dimethylsuccinyl) betulinic acid (DSB)~~,

wherein said compound is selected from the group consisting of (a) 3-O-(3',3'-dimethylsuccinyl) betulinic acid (DSB), (b) 3-O-(3',3'-dimethylsuccinyl) betulin, (c) 3-O-(3',3'-dimethylglutaryl) betulin, (d) 3-O-(3',3'-dimethylsuccinyl) dihydrobetulinic acid, (e) 3-O-(3',3'-dimethylglutaryl) betulinic acid, (f) (3',3'-dimethylglutaryl) dihydrobetulinic acid, (g) 3-O-diglycolyl-betulinic acid, (h) 3-O-diglycolyl-dihydrobetulinic acid, (i) a pharmaceutically acceptable salt of any of (a)-(h), and (j) combinations thereof.

Claims 14-81 (Cancelled)

82. (Previously presented) The method of claim 1, wherein said compound inhibits interaction of HIV protease with the viral Gag p25 protein.

83. (Previously presented) The method of claim 1, wherein said HIV-1 infection is characterized by HIV-1 infected cells which are capable of releasing HIV-1 virions, and wherein each virion comprises a viral membrane, and wherein said compound causes a preponderance of virions released from the infected cells to exhibit spherical, electron-dense cores that are acentric with respect to the virion.

84. (Previously presented) The method of claim 1, wherein said HIV-1 infection is characterized by HIV-1 infected cells which are capable of releasing HIV-1 virions, and wherein each virion comprises a viral membrane, and wherein said compound causes a preponderance of virions released from the infected cells to possess crescent-shaped electron-dense layers lying just inside the viral membrane.

Claims 85-86 (Cancelled)